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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,289	07/14/2005	Brian Jones	01898-25808.US	5179
20551 7590 07/02/2008 THORPE NORTH & WESTERN, LLP. P.O. Box 1219 SANDY, UT 84091-1219				
EXAMINER THERKORN, ERNEST G				
ART UNIT		PAPER NUMBER		
1797				
MAIL DATE		DELIVERY MODE		
07/02/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/505,289

**Applicant(s)**

JONES ET AL.

**Examiner**

Ernest G. Therborn

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 18-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Claims 1-17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. No support can be found for "wherein said heating or cooling is performed away from the column" and "and situated separately from the column." A fair reading of the remarks would indicate that these phases are intended to mean that the column is not in direct thermal contact with the heating or cooling source. However, the specification does not support precluding direct thermal contact with the heating or cooling source. Page 4, lines 1 and 2 of the specification indicates that Figure 1 is an embodiment of the invention. In that embodiment, the tubing and the column are both place in a single oven. As such, both the tubing and column are in direct contact with the heat source. The specification does not support precluding direct thermal contact with the heating or cooling source because direct thermal contact is one of applicants' embodiments. Accordingly, the claims are considered to be directed to new matter.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-17 are rejected under 35 U.S.C. 102(B) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sutton (U.S. Patent No. 6,103,112). The claims are considered to read on Sutton (U.S. Patent No. 6,103,112). However, if a difference exists between the claims and Sutton (U.S. Patent No. 6,103,112), it would reside in optimizing the steps of Sutton (U.S. Patent No. 6,103,112). It would have been obvious to optimize the steps of Sutton (U.S. Patent No. 6,103,112) to enhance separation.

Claims 5, 6, 9, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sutton (U.S. Patent No. 6,103,112) in view of Nickerson (U.S. Patent No. 6,423,120). At best, the claims differ from Sutton (U.S. Patent No. 6,103,112) in reciting up to several hundred watts. Nickerson (U.S. Patent No. 6,423,120) (column 5, lines 35-45) discloses a typical heater must be configured from 60 watts to achieve reasonable heat-up rates. It would have been obvious to use 60 watts in Sutton (U.S. Patent No. 6,103,112) because Nickerson (U.S. Patent No. 6,423,120) (column 5, lines 35-45) discloses a typical heater must be configured from 60 watts to achieve reasonable heat-up rates.

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sutton (U.S. Patent No. 6,103,112) in view of each of Schneider (U.S. Patent No. 5,238,557), that which is conceded to be old in the paragraph bridging pages 2 and 3 of the specification, and Waters (U.S. Patent No. 3,522,725). At best, the claims differ

from Sutton (U.S. Patent No. 6,103,112) in reciting that the heating and cooling is performed away from the column. Schneider (U.S. Patent No. 5,238,557) (column 4, lines 42-44) discloses performing heating and cooling away from the column by preheating allows use of less heating power by the column. That which is conceded to be old in the paragraph bridging pages 2 and 3 of the specification indicates that use of a feedback control of a preheater is suitable for wide bore columns. Waters (U.S. Patent No. 3,522,725) (column 3, lines 29-37) discloses that it is sufficient to have the connected ends of the column attached to heat exchanged tubing to maintain column temperature and the drawing pictorially discloses the heating and cooling is away from the column. It would have been obvious to heat and cool away from the column either because Schneider (U.S. Patent No. 5,238,557) (column 4, lines 42-44) discloses performing heating and cooling away from the column by preheating allows use of less heating power by the column; or because that which is conceded to be old in the paragraph bridging pages 2 and 3 of the specification indicates that use of a feedback control of a preheater is suitable for wide bore columns, or because Waters (U.S. Patent No. 3,522,725) (column 3, lines 29-37) discloses that it is sufficient to have the connected ends of the column attached to heat exchanged tubing to maintain column temperature and the drawing pictorially discloses the heating and cooling is away from the column.

Claims 5, 6, 9, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sutton (U.S. Patent No. 6,103,112) in view of each of Schneider (U.S. Patent No. 5,238,557), that which is conceded to be old in the paragraph bridging

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pages 2 and 3 of the specification, and Waters (U.S. Patent No. 3,522,725) as applied to claims 1-17 above, and further in view of Nickerson (U.S. Patent No. 6,423,120). At best, the claims differ from Sutton (U.S. Patent No. 6,103,112) in view of each of Schneider (U.S. Patent No. 5,238,557), that which is conceded to be old in the paragraph bridging pages 2 and 3 of the specification, and Waters (U.S. Patent No. 3,522,725) in reciting up to several hundred watts. Nickerson (U.S. Patent No. 6,423,120) (column 5, lines 35-45) discloses a typical heater must be configured from 60 watts to achieve reasonable heat-up rates. It would have been obvious to use 60 watts in Sutton (U.S. Patent No. 6,103,112) in view of each of Schneider (U.S. Patent No. 5,238,557), that which is conceded to be old in the paragraph bridging pages 2 and 3 of the specification, and Waters (U.S. Patent No. 3,522,725) because Nickerson (U.S. Patent No. 6,423,120) (column 5, lines 35-45) discloses a typical heater must be configured from 60 watts to achieve reasonable heat-up rates.

The remarks urge patentability based upon the limitations "wherein said heating or cooling is performed away from the column" and "and situated separately from the column." However, these limitations are considered to be new matter. In any event, Schneider (U.S. Patent No. 5,238,557) (column 4, lines 42-44) discloses performing heating and cooling away from the column by preheating allows use of less heating power by the column. That which is conceded to be old in the paragraph bridging pages 2 and 3 of the specification indicates that use of a feedback control of a preheater is suitable for wide bore columns. Waters (U.S. Patent No. 3,522,725) (column 3, lines 29-37) discloses that it is sufficient to have the connected ends of the

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column attached to heat exchanged tubing to maintain column temperature and the drawing pictorially discloses the heating and cooling is away from the column. It would have been obvious to heat and cool away from the column either because Schneider (U.S. Patent No. 5,238,557) (column 4, lines 42-44) discloses performing heating and cooling away from the column by preheating allows use of less heating power by the column; or because that which is conceded to be old in the paragraph bridging pages 2 and 3 of the specification indicates that use of a feedback control of a preheater is suitable for wide bore columns, or because Waters (U.S. Patent No. 3,522,725) (column 3, lines 29-37) discloses that it is sufficient to have the connected ends of the column attached to heat exchanged tubing to maintain column temperature and the drawing pictorially discloses the heating and cooling is away from the column.

The remarks urge Sutton (U.S. Patent No. 6,103,112) does not rapidly heat his fluid. However, Sutton (U.S. Patent No. 6,103,112) on column 13, lines 9-13 and lines 32-35 discloses rapid and precise heating and cooling.

The remarks urge that Sutton (U.S. Patent No. 6,103,112) does not heat or cool away from the column. However, Sutton (U.S. Patent No. 6,103,112) on column 12, lines 19-23 discloses use of a coil of capillary tubing prior to the column to establish heat transfer contact with the outer surface. As such, Sutton (U.S. Patent No. 6,103,112) discloses rapid heating or cooling of the fluid through the tubing away from the column.

The remarks urge that Sutton (U.S. Patent No. 6,103,112) does not disclose claim 10's sensor. However, an inspection of Figure 7 reveals that temperature sensor

118 is closer to that portion of tubing 114 closer to column 106 than emerging from prefilter 98.

The remarks urge that Sutton (U.S. Patent No. 6,103,112) does not measure the temperature in the tubing. However, Sutton (U.S. Patent No. 6,103,112) on column 14, lines 7-20 discloses mounting the sensor on the tubing.

The remarks urge that the examiner has admitted that there is a difference between the claims and Sutton (U.S. Patent No. 6,103,112) based upon the limitation of use of up to several hundred watts. Rejecting the claims that have that limitation as being anticipated by Sutton (U.S. Patent No. 6,103,112) is not considered to be an admission of a difference. The claims have been rejected as being anticipated by Sutton (U.S. Patent No. 6,103,112) because Sutton (U.S. Patent No. 6,103,112) inherently discloses that feature because its column 12, lines 42-45 resistance heater would have to use that much power to achieve Sutton (U.S. Patent No. 6,103,112)'s column 13, lines 9-13 and lines 32-35 rapid and precise heating and cooling. The supplemental back-up rejection of claims 5, 6, 9, and 15 employs the phrase "At best, the claims differ." This is not considered to be an admission.

Any inquiry concerning this communication should be directed to E. Therkorn at telephone number (571) 272-1149. The official fax number is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.



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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Ernest G. Therkorn/  
**Ernest G. Therkorn**  
**Primary Examiner**  
**Art Unit 1797**

EGT  
June 30, 2008